APPENDIX C

SURVEY QUESTIONNAIRE

January 5, 1998

<<address>>

Dear <<sal>>:

I am writing to request your assistance in a matter of considerable importance to research efforts at higher education institutions. At the direction of Congress, the National Science Foundation is once again collecting information on the status and condition of academic science and engineering research facilities in the United States. *The 1998 Survey of Scientific and Engineering Research Facilities at Universities and Colleges*, co-sponsored by the Foundation and the National Institutes of Health, is about to begin, and we would very much appreciate your assistance in making it as comprehensive as possible.

The 1998 survey is the seventh in this biennial series and will form the basis for a Fall 1998 report to Congress. By providing information on the current status of research facilities and continuing the systematic assessment of changes in the status of facilities, the 1998 study will continue to provide policymakers with important updated data on the condition of research facilities in the United States.

Your participation in the survey is voluntary; however, we are certain that you appreciate the importance of this effort and ask that you appoint a senior official to coordinate the survey at your institution. Please fax the enclosed coordinator identification form to our contractor, within the next week. The complete packet of survey materials will be sent directly to the coordinator about January 30, 1998.

If you have any questions about the study, please contact Dr. Ann Lanier of the Division of Science Resources Studies at the National Science Foundation at (703) 306-1772, extension 6910.

Thank you for your assistance in this important effort.

Sincerely Yours,

Neal Lane

Neal Lane
Director

Enclosure: Coordinator Identification Form
cc: 1996 Coordinator:

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

National Institutes of Health
National Center for
Research Resources
Bethesda, Maryland 20892

May 4, 1998

President
Title
Institution
Address
City, State Zip

Dear *Title Last Name:*

I am writing to request your assistance in a matter of considerable importance. Based on concerns raised by the academic community, Congress instructed the National Science Foundation to collect information on the status and condition of science and engineering research facilities at the Nation's colleges and universities. At the request of the National Institutes of Health (NIH), which is co-sponsoring this effort, the 1998 *Survey of Scientific and Engineering Research Facilities* again includes independent biomedical research organizations and independent hospitals. Your participation in the survey is voluntary.

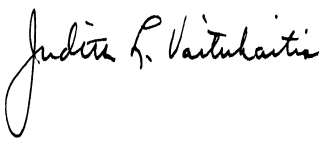
The 1998 survey is the seventh biennial series and will form the basis for a September 1, 1998 report to Congress; an additional report on biomedical research facilities will be issued by NIH. By providing an assessment of the current status of research facilities, and continuing the systematic assessment of changes in the status of facilities, the survey will provide policy makers with information not previously available.

I am certain that you appreciate the importance of this effort, and ask that you appoint a senior official to coordinate your institution's response. Please fax the enclosed coordinator identification form to our contractor, The Gallup Organization, within the next two weeks. The complete package of survey materials will be sent directly to the Coordinator by the end of May.

If you have any questions about the study, please contact Dr. Mary Barton of the Gallup's Government and Education Division, at 1-800-713-2595 or Dr. Sidney A. McNairy, Jr. of NIH, at 301-435-0788.

Thank you for your assistance in this important effort.

Sincerely yours,



Judith L. Vaitukaitis, M.D.
Director-National Center for Research Resources

Enclosure: 1998 Coordinator Identification Form
cc: 1996 Coordinator: Name, Title

1998 Survey Of Scientific And Engineering Research Facilities At Universities And Colleges

OMB # 3145-0101
Expires 12/2000

National Science Foundation (NSF)
National Institutes Of Health (NIH)

Acting out of concerns raised by the academic community, Congress directed the National Science Foundation (NSF) to collect and analyze data about research facilities at universities and colleges and to report to Congress every two years. This survey is in response to that requirement under authorization of the National Science Foundation Act of 1950, as amended.

The main topics in this year's survey are:

- amount of space in your institution;
- amount and condition of research space in your institution;
- costs of capital projects completed, begun, or planned;
- deferred capital projects; and
- miscellaneous topics.

We will use the information that you provide for a report that gives a broad, quantitative picture of

- the cost, availability, and condition of existing science and engineering (S&E) research facilities; and
- the current capital spending by universities and colleges, sources of funding, and plans for future repair/ renovation and new construction of S&E research facilities.

Your participation in this survey is voluntary. However, your response is very important to us. Aggregate data from this report are used by Congress, the Executive Branch, many higher education associations, and university and college administrators to help make policy decisions. **NSF and NIH do not use or allow others to use detailed responses in any manner that would identify an individual institution's responses.**

The president or chancellor of your institution named the individual on the label to the right to coordinate data collection for this survey. Please correct any wrong information on the label.

If someone other than the person listed above coordinates the data collection, please tell us whom we may call if we have questions about the information.

Name **Title/Department** **Telephone no. and ext.**

It is estimated that responding to the survey requires an average of 24 hours. If you wish to comment on this burden, contact Gail McHenry, Reports Clearance Officer, NSF, at 703-306-1125, extension 2010; and the Office of Management and Budget, Paperwork Reduction Project (OMB Number 3145-0101), Washington, DC 20503.

Return the completed survey by ***March 31, 1998,*** to: ***The Gallup Organization***
Attention: Bernadine Karunaratne
One Church Street, Suite 900
Rockville, MD 20850

If you have any questions or comments about the survey, contact Dr. Ann Lanier of NSF at 703-306-1774, extension 6910, or Bernadine Karunaratne of The Gallup Organization at 1-800-288-9439 (bernadine_karunaratne@gallup.com).

GUIDELINES

Refer to these guidelines as you fill out the survey.

1. About this survey—how to use the "Tips" box

With each item in this survey, along with instructions for completing the item, you will find a "Tips" box containing additional information to help you complete the item correctly. The box also contains definitions of terms that appear in the item. Terms appearing in **boldface type** in the instructions are defined in the "Tips" box on that page.

2. The definition of research

In this survey, research is defined as all research activities of your institution that are budgeted and accounted for. Research can be funded by the institution itself, the Federal government, state governments, foundations, corporations, or other sources.

3. What to include as research facilities

In this survey, the term "research facilities" *includes:*

- research laboratories;
- controlled-environment space, such as clean or white rooms;
- technical-support space, such as carpentry and machine shops;
- facilities for laboratory animals, such as animal production colonies, holding rooms, isolation and germ-free rooms;
- faculty or staff offices, to the extent that they are used for research;
- department libraries, to the extent that they are used for research;
- fixed (built-in) equipment, such as fume hoods and benches; and
- non-fixed equipment costing $1 million or more.

It does *not* include:

- facilities that have been designated as federally funded research and development centers (FFRDC);
- facilities that are used by faculty, but are not administered by the institution, such as research space at Veterans Administration or other non-university hospitals;
- facilities that are administered by your institution but are leased to others for their use

4. What fields to include as science and engineering (S&E) fields

Because every institution has its own way of classifying fields of study, for consistency, please use the *Cross Reference* chart (see page 25) to classify areas of study at your institution. The *Cross Reference* chart identifies the departments that are included within each of the S&E fields used in this survey. The *Cross Reference* chart is based on the classification of academic departments used by the National Center for Educational Statistics. If you are unable to separate data for academic departments, report the combined data under "Other Sciences, not elsewhere classified" and list the fields that those data represent.

For this survey, S&E fields *include*:

- Engineering
- Physical Sciences
- Earth, Atmospheric, and Ocean Sciences
- Mathematics
- Computer Sciences
- Agricultural Sciences
- Biological Sciences
- Medical Sciences
- Psychology
- Social Sciences
- Other Sciences, not elsewhere classified

They do *not* include:

- law, business administration/management (except economics), humanities, history, the arts, or education (except educational psychology).

5. The definition of net assignable square feet (NASF)

In this survey, instruction or research NASF is defined as the sum of all areas (in square feet) on all floors of a building assigned to, or available to be assigned to, an occupant for specific use. NASF should be measured from the inside faces of walls. Refer to pages 95–96 in Appendix 2 of *Postsecondary Education Facilities Inventory and Classification Manual*, U.S. Department of Education, Office of Educational Research and Improvement, NCES 92-165 (or to the 1988 NACUBO *Taxonomy of Functions*, or to the 1972 WICHE *Program Classification Structure).*

6. How to calculate space and cost

Space in NASF

For space used for both S&E research and other purposes: *Prorate* the NASF to reflect the proportion of use for S&E research activity. For example, if a room or building is used for S&E research only during the summer months (one-fourth of the year), then count 25% of the NASF as S&E research space.

For space that is shared by S&E fields: Prorate the NASF to reflect the proportion of use by each field. For example, if a room or building is used equally for research activity in Computer Sciences and Mathematics, count 50% of the NASF as research space for Computer Sciences and 50% for Mathematics.

Cost of repair/renovation and new construction

What to include under "completion costs": Several survey items ask you to report completion costs for repair/renovation and new construction projects. When you report completion costs for projects on S&E research space, include costs for

- planning;
- site preparation; and
- repair/renovation or new construction of
  - — the research space itself;
  - — fixed equipment;
  - — non-fixed equipment costing $1 million or more; and
  - — building infrastructure, such as plumbing, lighting, air exchange, and safety systems in the building and within five feet of the building foundation.

For projects involving both S&E research space and space used for other purposes: Prorate the cost of repair/renovation and new construction projects to reflect the proportion of the space that is used for S&E research. For example, you might construct a new Biological Sciences building at a cost of $8 million. Half of the space in the new building will be used for biological research and the other half will be used for class instruction. In this case, the prorated cost of construction for S&E research facilities that you should report would be $4 million, or half of the total cost.

For multi-year projects: Allocate the entire project completion cost to the fiscal year in which the project began or is expected to begin. Consider the start-date for a project to be the date on which repair/renovation or new construction actually began or is expected to begin.

7. Changes to the survey

What's different in 1998

- **Item 3,** page 10. There are now four categories for assessing the condition of research space. In 1996, two of the categories *"C - requires major renovation to be used effectively"* and *"D - requires replacement"* were combined, but in 1998 they are separate categories again.
- **Item 4b,** page 14. This is a new item. It asks you to list any non-fixed equipment costing $1 million or more that was included in your Item 4 costs of repair/renovation or new construction during your fiscal years 1996 and 1997.
- **Item 5b,** page 17. This is a new item. It asks you to identify the amount of indirect costs recovered from federal grants and/or contracts that is included in "Institutional funds" if institutional funds was a source of funding in Item 5a for any repair/renovation or new construction in your fiscal years 1996 and 1997.
- **Item 8,** page 22. The categorization of laboratory animal facilities in relation to government regulations has been modified. The categories are now the four levels of Animal Biological Safety, as described in *Biosafety in Microbiological and Biomedical Laboratories* (see complete reference, page 20.)

Detailed instructions and tips containing additional information on how to answer the questions are provided with each item in the survey.

Item 1a. Instructional and research space

To complete Item 1a, do the following:

1. In Column 1 of the table on the facing page, fill in the current amount of net assignable square feet (**NASF**) devoted to instruction and **research** for each field listed.

2. Near the bottom of Column 1, fill in the current total NASF devoted to instruction and research for
   - science and engineering (S&E) fields (TOTAL #1),
   - non-science fields (TOTAL #2), and
   - all academic fields (TOTAL #3).

3. In Column 2, fill in the current amount of **research space** (NASF devoted to research only) for each S&E field listed.

4. Near the bottom of Column 2, fill in the total NASF devoted to research in all S&E fields.

Note for institutions using a facilities inventory system based on NCES, NACUBO, or WICHE classifications:

- For Column 1 ("Instructional and research NASF"), add the space that is assigned to functional category 1 (Instruction) and category 2 (Research).

- For Column 2 ("Research NASF"), use only the space that is assigned to functional category 2 (Research). Please refer to pages 95–96 in Appendix 2 of *Postsecondary Education Facilities Inventory and Classification Manual*, U.S. Department of Education, Office of Educational Research and Improvement, NCES 92-165 (or to the 1988 NACUBO *Taxonomy of Functions*, or to the 1972 WICHE *Program Classification Structure*).

Tips for completing Item 1a

- Include leased space used by your institution for your research.
- Estimate if exact figures are not available.
- If space is used for more than one purpose, prorate the NASF to reflect the proportion of use for the activity the item is asking about. (For an example, see page 3.)
- If space is shared by S&E fields, prorate the NASF to reflect the proportion of use by each field. (For an example, see page 3.)
- For help in classifying your programs, refer to the *Cross Reference* chart on page 25.
- Use these definitions for bolded items:

  NASF: Is the sum of all areas (in square feet) on all floors of a building assigned to, or available to be assigned to, an occupant for specific use, such as instruction or research. NASF should be measured from the inside faces of walls.

  research: Refers to all research activities of your institution that are budgeted and accounted for. Research can be funded by the institution itself, the Federal government, state governments, foundations, corporations, or other sources.

  research space: Refers to the NASF of space in facilities within which research activities take place. These facilities may include the following (to the extent that they are used for research): research laboratories, controlled-environment space, technical-support space, facilities for laboratory animals, faculty or staff offices, department libraries, fixed equipment (such as fume hoods and benches), and non-fixed equipment costing $1 million or more.

Table for Item 1a. Instructional and research space

FIELD	Column 1 Instructional and research NASF	Column 2 Research NASF
SCIENCE AND ENGINEERING (S&E) FIELDS		
Engineering		
Physical Sciences		
Earth, Atmospheric, and Ocean Sciences		
Mathematics		
Computer Sciences		
Agricultural Sciences		
Biological Sciences Other than medical school		
Biological Sciences Medical school		
Medical Sciences Other than medical school		
Medical Sciences Medical school		
Psychology		
Social Sciences		
Other Sciences, not elsewhere classified List them:		
TOTAL #1: ALL S&E FIELDS		
TOTAL #2: ALL NON-SCIENCE FIELDS [for example, law, business administration/management (except economics), humanities, history, the arts, or education (except educational psychology)]		
TOTAL #3: GRAND TOTAL		

Item 1b. Leased research space

Look at the total research space for all S&E fields (TOTAL #1) in the table above. How much of that space is leased?

_____ **NASF of leased research space**

AMOUNT AND CONDITION OF RESEARCH SPACE

Item 2. Current amount of research space, by field

Item 2 asks you to rate the amount of science and engineering (S&E) **research space** available at your institution. For each field, you will choose one of the following three categories:

A *Adequate amount of space:* sufficient to support all the needs of your current S&E **research program commitments** in the field

B *Inadequate amount of space:* not sufficient to support the needs of your current S&E research program commitments in the field; or non-existent but needed

NA Not applicable or no space needed in the field

To complete Item 2, do the following:

1. For each field listed on the table on the facing page, circle the letter of the category in Column 1 that best describes the amount of space available for your current S&E research program commitments in that field.
2. For each field for which you circled **B** (inadequate amount), estimate and record in Column 2 the additional NASF or percent more space that is needed.

Example 1: The Engineering department's research space is overcrowded to the extent that efficiency of work on an existing grant has been affected. In your answer to Item 2, you should consider the additional space you need to support work on this already awarded grant.

Example 2: The Biology department has made offers to three new faculty needed to support an existing program in molecular biology. In your answer to Item 2, you should consider the space needed to accommodate these new colleagues (even though they are not currently on campus) because it is needed to fulfill already existing program commitments and because offers have been made.

Tips for completing Item 2

➲ Use these definitions for bolded items:

research program commitments: Refers to all research and development activities of an institution that are budgeted, approved, and funded.

Research program commitments *include*

- current faculty and staff or those to whom offers have been made;
- grants awarded, whether or not research has actually begun; and
- programs which have been approved.

They do *not* include

- potential staff without offers,
- grants applied for but not awarded, and
- programs designed but not yet approved.

research space: Refers to the NASF of space in facilities within which research activities take place. These facilities may include the following (to the extent that they are used for research): research laboratories, controlled-environment space, technical-support space, facilities for laboratory animals, faculty or staff offices, department libraries, fixed equipment (such as fume hoods and benches), and non-fixed equipment costing $1 million or more.

Table for Item 2. Current amount of research space, by field

Key:

A = ***Adequate*** *amount of space: sufficient to support all the needs of your current S&E research program commitments in the field*

B = ***Inadequate*** *amount of space: not sufficient to support the needs of your current S&E research program commitments in the field; or non-existent but needed*

NA = ***Not applicable*** *or no space needed in the field*

FIELD	Column 1			Column 2	
	Adequacy or inadequacy of amount of S&E research space *For each field, circle the appropriate code in one of the columns below.*			Additional space needed for current S&E research program commitments *For each field, you may choose to enter **either** NASF **or** percent more space needed. (Enter a figure in **one** of the columns below for each field.)*	
	Adequate	Inadequate	Not Applicable	Additional NASF needed	Percent more space needed
Engineering	A	B	NA		
Physical Sciences	A	B	NA		
Earth, Atmospheric, and Ocean Sciences	A	B	NA		
Mathematics	A	B	NA		
Computer Sciences	A	B	NA		
Agricultural Sciences	A	B	NA		
Biological Sciences Other than medical school	A	B	NA		
Biological Sciences Medical school	A	B	NA		
Medical Sciences Other than medical school	A	B	NA		
Medical Sciences Medical school	A	B	NA		
Psychology	A	B	NA		
Social Sciences	A	B	NA		
Other Sciences, not elsewhere classified List them:	A	B	NA		

Item 3. Current condition of research space, by field

To complete Item 3, do the following:

1. For each field listed on the table on the facing page, fill in the percent of **research space** that falls into each category below:

   A Suitable for the most scientifically competitive research in the field

   B Effective for most levels of research in the field, but may need limited repair/ renovation

   C Requires **major renovation** to be used effectively

   D Requires replacement

   NA Not applicable or no research space in that field

2. For each field for which you reported space in category D, record in Column 2 the number of NASF or percent of that space that is funded and scheduled for replacement in your FY 1998 or FY 1999.

Tips for completing Item 3

- Consider only space supporting your *current* S&E research program commitments.

- Use these definitions for bolded items:

  major renovation: Refers to an extensive repair project that results in facilities that are equivalent, or nearly equivalent, to new facilities in their ability to support S&E research.

  research space: Refers to the NASF of space in facilities within which research activities take place. These facilities may include the following (to the extent that they are used for research): research laboratories, controlled-environment space, technical-support space, facilities for laboratory animals, faculty or staff offices, department libraries, fixed equipment (such as fume hoods and benches), and non-fixed equipment costing $1 million or more.

Table for Item 3. Current condition of research space, by field

Key:

A = *Suitable for the most scientifically competitive research in the field*

B= *Effective for most levels of research in the field, but may need limited repair/renovation*

C = *Requires major renovation to be used effectively (categories C + D were combined in the 1996 survey)*

D = *Requires replacement (categories C + D were combined in the 1996 survey)*

NA = *Not applicable or no research space in this field*

	Column 1						**Column 2**	
	Percent of research space according to condition *For each field, fill in the percent of research space that falls into each category*						**Amount of space in category D that is funded and scheduled for replacement in your FY 1998 or FY 1999** *For each field, you may choose to enter **either** NASF **or** percent of space. (Enter a figure in **one** of the columns below for each field.)*	
FIELD	**A**	**B**	**C**	**D**	Total	**NA**	**NASF**	**Percent of space**
Engineering					100%			
Physical Sciences					100%			
Earth, Atmospheric, and Ocean Sciences					100%			
Mathematics					100%			
Computer Sciences					100%			
Agricultural Sciences					100%			
Biological Sciences Other than medical school					100%			
Biological Sciences Medical school					100%			
Medical Sciences Other than medical school					100%			
Medical Sciences Medical school					100%			
Psychology					100%			
Social Sciences					100%			
Other Sciences, not elsewhere classified List them:					100%			

Item 4a. Research facilities projects over $100,000: your FY 1996 and FY 1997

This item asks you to report the completion costs (planning, site preparation, construction, **fixed equipment**, **non-fixed equipment** costing $1 million or more, **building infrastructure**) and net assignable square feet (**NASF**) involved in **repair/renovation** and **new construction** of science and engineering (S&E) research facilities.

To complete Item 4a, do the following:

1. In Columns 1 and 3 of the table on the facing page:
   - for each field listed, fill in the completion costs for repair/renovation and new construction projects over $100,000; and
   - in the row marked TOTAL, fill in the total completion costs for repair/renovation and new construction.
2. In Columns 2 and 4 of the table on the facing page:
   - for each field listed, fill in the estimated NASF involved in repair/renovation and new construction projects over $100,000; and
   - in the row marked TOTAL, fill in the estimated total NASF for repair/renovation and new construction.

Note: Do not total the cost of several small projects and report their costs if the sum is $100,000 or more. Repair/renovation projects costing between $5,000 and $100,000 should be reported in Item 4c, page 15.

Tips for completing Item 4a

- Consider only projects that began during your FY 1996 or FY 1997. (Consider the start-date for a project to be the date on which repair/renovation or new construction actually began.)
- If space is shared by S&E fields, prorate the NASF and cost to reflect the proportion of use by each field. (For an example, see page 3.)
- Consider only projects whose individual prorated cost in a given field is over $100,000. (All the dollar figures in Column 1 or Column 3 of the table on the facing page should be *over $100,000*.)
- Use these definitions for bolded items:

  building infrastructure: Includes systems that exist in the building and within five feet of the building foundation, such as plumbing, lighting, air exchange, and safety systems.

  fixed equipment: Refers to equipment that is built into facilities, such as fume hoods and lab benches.

  NASF: Is the sum of all areas (in square feet) on all floors of a building assigned to, or available to be assigned to, an occupant for specific use, such as instruction or research. NASF should be measured from the inside faces of walls.

  new construction: Refers to additions to an existing building or construction of a new building.

  non-fixed equipment: Refers to equipment that is not built into the facilities. The non-fixed equipment must cost $1 million or more (such as MRI equipment) to be included in completion costs.

  repair/renovation: Refers to the fixing up of facilities in deteriorated condition, capital improvements on facilities, conversion of facilities, etc.

Table for Item 4a. Research facilities projects over $100,000: your FY 1996 and FY 1997

FIELD	REPAIR/RENOVATION over $100,000 begun during your FY 1996 or FY 1997		NEW CONSTRUCTION over $100,000 begun during your FY 1996 or FY 1997	
	Column 1	Column 2	Column 3	Column 4
	Cost	NASF	Cost	NASF
Engineering				
Physical Sciences				
Earth, Atmospheric, and Ocean Sciences				
Mathematics				
Computer Sciences				
Agricultural Sciences				
Biological Sciences Other than medical school				
Biological Sciences Medical school				
Medical Sciences Other than medical school				
Medical Sciences Medical school				
Psychology				
Social Sciences				
Other Sciences, not elsewhere classified List them:				
TOTAL				

Did any of the repair/renovation or construction project costs listed above include **non-fixed equipment** costs of $1 million or more?

☐ Yes (Continue with Item 4b)

☐ No (Go to Item 4c)

Item 4b. Non-fixed equipment costing $1 million or more

To complete Item 4b, do the following:

- Review the completion costs in Columns 1 and 3 in each field of Item 4a to determine if those costs included any non-fixed equipment costing $1 million or more.

- If so, fill in the table by listing each field that included such non-fixed equipment costs and the cost of that equipment.

FIELD	Non-fixed equipment costs of $1 million or more included in REPAIR/RENOVATION	Non-fixed equipment costs of $1 million or more included in NEW CONSTRUCTION
List field:	$	$
List field:	$	$
List field:	$	$
List field:	$	$
List field:	$	$

Item 4c. Research facilities projects between $5,000 and $100,000: your FY 1996 and FY 1997

To complete Item 4c, do the following:

In the blank below, fill in the total dollar amount for completion costs of **repair/renovation** projects between $5,000 and $100,000 begun in your FY 1996 and FY 1997.

$ _____

Total for repair/renovation projects (costing between $5,000 and $100,000 each) of your science and engineering (S&E) research facilities

Tips for completing Item 4c

- Consider only projects that began during your FY 1996 or FY 1997. (Consider the start-date for a project to be the date on which repair/ renovation actually began.)
- Exclude projects whose prorated cost is less than $5,000 or more than $100,000.
- Use these definitions for bolded items:

  building infrastructure: Includes systems that exist in the building and within five feet of the building foundation, such as plumbing, lighting, air exchange, and safety systems.

  fixed equipment: Refers to equipment that is built into facilities, such as fume hoods and lab benches.

  repair/renovation: Refers to the fixing up of facilities in deteriorated condition, capital improvements on facilities, conversion of facilities, etc.

Item 5a. Sources of funding for research facilities projects: your FY 1996 and FY 1997

To complete Item 5a, do the following:

1. In the row marked TOTAL on the table on the facing page, at the bottom of Columns 1 and 2, copy the cost totals for your science and engineering (S&E) research facilities projects from Item 4a, Columns 1 and 3:
   - **repair/renovation** projects costing over $100,000, and
   - **new construction** projects costing over $100,000.
2. Fill in the dollar amounts of funding from each source listed.

Tips for completing Item 5a and 5b

- Consider only projects that began during your FY 1996 or FY 1997. (Consider the start-date for a project to be the date on which repair/ renovation or new construction actually began.)
- Note that "Institutional funds" include operating funds, endowments, indirect costs recovered from federal grants and/or contracts, indirect costs recovered from other sources, etc.
- If your institution maintains a separate line in your institutional budget that identifies indirect costs recovered from federal grants and/or contracts, you should be able to answer Item 5b.
- Use these definitions for bolded items:

  new construction: Refers to additions to an existing building or construction of a new building.

  repair/renovation: Refers to the fixing up of facilities in deteriorated condition, capital improvements on facilities, conversion of facilities, etc.

Table for Item 5a. Sources of funding for research facilities projects: your FY 1996 and FY 1997

Source	Column 1 Dollar amount for REPAIR/RENOVATION projects costing over $100,000	Column 2 Dollar amount for NEW CONSTRUCTION projects costing over $100,000
Federal government		
State or local government		
Private donations		
Institutional funds (Operating funds, endowments, indirect costs recovered from federal grants and/or contracts, indirect costs recovered from other sources, etc.)		
Tax-exempt bonds		
Other debt financing		
Other sources List them:		
TOTAL		

Item 5b. Indirect costs from Federal grants/contracts included in institutional funds

1. Can you identify the amount of indirect costs recovered from federal grants and/or contracts that is included in the "Institutional funds" amount listed above?

☐ Yes (Continue)

☐ No (Go to Item 6)

☐ NA (Institutional funds not a source of funding in Item 5a)

2. What is the amount of indirect costs recovered from federal grants and/or contracts that is included in the "Institutional funds" amount listed above?

Source	REPAIR/RENOVATION	NEW CONSTRUCTION
Indirect costs recovered from federal grants/contracts	$	$

Item 6. Planned research facilities projects over $100,000 scheduled to begin in your FY 1998 and FY 1999

To complete Item 6, do the following:

1. In Columns 1 and 3 of the table on the facing page,
   - for each field listed, fill in the completion costs for projects over $100,000 (planning, site preparation, construction, **fixed equipment**, non-fixed equipment costing $1 million or more, **building infrastructure**) for **planned projects** (both **repair/renovation** and **new construction**), and
   - in the row marked TOTAL #1, fill in the total completion costs for all science and engineering (S&E) fields.
2. In Columns 2 and 4,
   - for each field listed, estimate the net assignable square feet (**NASF**) involved in those projects (***Note:*** *be sure to include here any space that you reported in Column 2 of the table for Item 3),* and
   - in the row marked TOTAL #1, fill in the estimated NASF for all S&E fields.
3. Near the bottom of the table, in the row marked TOTAL #2, enter the estimated completion costs for planned capital projects to extend, repair, or renovate **central campus infrastructure**.
4. Add the figures in the row marked TOTAL #1 to those in the row marked TOTAL #2. Record the total figures in the row marked TOTAL #3.

Tips for completing Item 6

- Consider only projects scheduled to begin during your FY 1998 or FY 1999.
- If space is shared by S&E fields, prorate the NASF and cost to reflect the proportion of use by each field. (For an example, see page 3.)
- Include only projects whose prorated cost in a given field is over $100,000. (All the dollar figures in Column 1 or Column 3 of the table on the facing page should be *over $100,000*.)
- Estimate if exact figures are not available.
- Use these definitions for bolded items:

  building infrastructure: Includes systems that exist in the building and within five feet of the building foundation, such as plumbing, lighting, air exchange, and safety systems.

  central campus infrastructure: Refers primarily to systems that exist between the buildings of a campus (excluding the area within five feet of any individual building foundation) and to the nonarchitectural elements of campus design (central wiring for telecommunications systems, storage/disposal facilities, electrical wiring between buildings, central heating and air exchange systems, drains and sewers, roadways, walkways, parking systems, etc.)

  fixed equipment: Refers to equipment that is built into facilities, such as fume hoods and lab benches.

  NASF: Is the sum of all areas (in square feet) on all floors of a building assigned to, or available to be assigned to, an occupant for specific use, such as instruction or research. NASF should be measured from the inside faces of walls.

  new construction: Refers to additions to an existing building or construction of a new building.

  planned project: Refers to a project that is funded and scheduled but on which construction has not yet begun.

  repair/renovation: Refers to the fixing up of facilities in deteriorated condition, capital improvements on facilities, conversion of facilities, etc.

Table for Item 6. Planned research facilities projects over $100,000 scheduled to begin in your FY 1998 and FY 1999

FIELD	REPAIR/RENOVATION over $100,000 scheduled to begin in your FY 1998 or FY 1999		NEW CONSTRUCTION over $100,000 scheduled to begin in your FY 1998 or FY 1999	
	Column 1	Column 2	Column 3	Column 4
	Expected Cost	Estimated NASF	Expected Cost	Estimated NASF
Engineering				
Physical Sciences				
Earth, Atmospheric, and Ocean Sciences				
Mathematics				
Computer Sciences				
Agricultural Sciences				
Biological Sciences Other than medical school				
Biological Sciences Medical school				
Medical Sciences Other than medical school				
Medical Sciences Medical school				
Psychology				
Social Sciences				
Other Sciences, not elsewhere classified List them:				
TOTAL #1: ALL S&E FIELDS				
TOTAL #2: CENTRAL CAMPUS INFRA-STRUCTURE (Includes telecommunications, electrical systems, plumbing systems, steam and chilled water lines, hazardous materials systems, etc.)				
TOTAL #3: GRAND TOTAL				

Item 7. Costs for repair/renovation and new construction of research space needed but not funded

To complete Item 7, do the following:

1. Read the definition in the "Tips" box to the right for **deferred project**. According to this definition, answer the question above the table on the facing page.
2. Read the definition in the "Tips" box to the right for **institutional plan**. Then,
   - for deferred projects that are *part of an institutional plan*, enter the estimated completion costs (planning, site preparation, construction, **fixed equipment**, non-fixed equipment costing $1 million or more, **building infrastructure**) in Columns 1 and 2 of the table on the facing page; and
   - for deferred projects that are *not* part of an institutional plan, enter the estimated completion costs in Columns 3 and 4.
3. Record the totals for these estimates in the row marked TOTAL #1.
4. Near the bottom of the table, in the row marked TOTAL #2, enter the estimated completion costs for deferred capital projects to extend, repair, or renovate **central campus infrastructure**—both those that are, and those that are not, part of an institutional plan.
5. Add the figures in the row marked TOTAL #1 to those in the row marked TOTAL #2. Record the total figures in the row marked TOTAL #3.

Tips for completing Item 7

- If space is shared by S&E fields, prorate the cost to reflect the proportion of use by each field. (For an example, see page 3.)
- For help in classifying your programs, refer to the *Cross Reference* chart on page 25.
- Use these definitions for bolded items:

building infrastructure: Includes systems that exist in the building and within five feet of the building foundation, such as plumbing, lighting, air exchange, and safety systems.

central campus infrastructure: Refers primarily to systems that exist between the buildings of a campus (excluding the area within five feet of any individual building foundation) and to the nonarchitectural elements of campus design (central wiring for telecommunications systems, storage/disposal facilities, electrical wiring between buildings, central heating and air exchange systems, drains and sewers, roadways, walkways, parking systems, etc.)

deferred project: Refers to a repair/renovation or new construction project which meets all of the following criteria:

- is necessary to meet your current S&E research program commitments,
- is not scheduled for your FY 1998 or FY 1999,
- does not have funding, *and*
- is neither for the purpose of developing new programs nor for expanding faculty beyond what is required to fulfill current S&E research program commitments.

fixed equipment: Refers to equipment that is built into facilities, such as fume hoods and lab benches.

institutional plan: Refers to an institution's approved plan, including goals, strategies, steps, and budgets, for fulfilling the institution's mission during a specific time period.

new construction: Refers to additions to an existing building or construction of a new building.

repair/renovation: Refers to the fixing up of facilities in deteriorated condition, capital improvements on facilities, conversion of facilities, etc.

Table for Item 7. Costs for repair/renovation and new construction of research space needed but not funded

Does your institution have any deferred projects for repair/renovation or new construction of your science and engineering (S&E) research facilities?

☐ **Yes.** Continue. ☐ **No.** Go to Item 8.

***Note**: If you cannot provide cost estimates, **you may instead record estimated NASF** for deferred projects (prorate if necessary). If you choose to do this and are recording NASF rather than dollars in the table below, check (✓) here:* ☐

FIELD	Estimated cost for deferred projects needed for current S&E research program commitments			
	Needs INCLUDED in an institutional plan		Needs NOT INCLUDED in an institutional plan	
	Column 1	Column 2	Column 3	Column 4
	Repair/renovation costs	New construction costs	Repair/renovation costs	New construction costs
Engineering				
Physical Sciences				
Earth, Atmospheric, and Ocean Sciences				
Mathematics				
Computer Sciences				
Agricultural Sciences				
Biological Sciences Other than medical school				
Biological Sciences Medical school				
Medical Sciences Other than medical school				
Medical Sciences Medical school				
Psychology				
Social Sciences				
Other Sciences, not elsewhere classified List them:				
TOTAL #1: ALL S&E FIELDS				
TOTAL #2: CENTRAL CAMPUS INFRA-STRUCTURE (See "Tips" box for definition.)				
TOTAL #3: GRAND TOTAL				

Item 8. Facilities for laboratory animals

To complete Item 8, answer the questions on the facing page.

The following is a brief description of the four recommended biosafety levels of Animal Biological Safety, reprinted from *Biosafety in Microbiological and Biomedical Laboratories* (see below).

Level 1 practices, safety equipment, and facilities are appropriate for undergraduate and secondary educational training and teaching laboratories, and for other facilities in which work is done with defined and characterized strains of viable microorganisms not known to cause disease in healthy adult humans.

Level 2 practices, equipment, and facilities are applicable to clinical, diagnostic, teaching and other facilities in which work is done with the broad spectrum of indigenous moderate-risk agents present in the community and associated with human disease of varying severity.

Level 3 practices, safety equipment, and facilities are applicable to clinical, diagnostic, teaching, research, or production facilities in which work is done with indigenous or exotic agents with a potential for respiratory transmission, and which may cause serious and potentially lethal infection.

Level 4 practices, safety equipment, and facilities are applicable for work with dangerous and exotic agents which pose a high individual risk of life-threatening disease, which may be transmitted via the aerosol route, and for which there is no available vaccine or therapy.

Note: For a complete description of Animal Biological Safety, reference the report, U.S. Department of Health and Human Services. Public Health Service, Centers for Disease Control and Prevention; and National Institutes of Health. *Biosafety in Microbiological and Biomedical Laboratories*, 3rd Edition, 1993. Washington D.C.; U.S. Government Printing Office, 1993.

Tips for completing Item 8

- Include as laboratory animal facilities both departmental and central facilities that are subject to government and state policies and regulations concerning humane care and use of laboratory animals.
- Do *not* include in your lab animal facilities space:
  - agricultural field buildings sheltering animals that do not directly support research or that are not subject to government regulations concerning humane care and use of laboratory animals; or
  - areas for treatment of animals that are veterinary patients.
- Use these definitions for bolded items:

  animal housing NASF: Refers to all general animal housing (for example, cage rooms, stalls, wards, isolation rooms) and maintenance areas (for example, feed storage rooms, cage-washing rooms, shops, storage), if these areas directly support research. (Animal housing NASF are Codes 570 and 575 in the *Postsecondary Education Facilities Inventory and Classification Manual.)*

  animal laboratory NASF: Refers to all animal laboratory space used exclusively for research activities, such as bench space, animal production colonies, holding rooms, germ-free rooms, surgical facilities and recovery rooms.

  total animal research NASF: Refers to the combined amount of animal laboratory and animal housing NASF.

Item 8. Facilities for laboratory animals

1. Does your institution have facilities for laboratory animals?

   ☐ No. Go to Item 9 on the next page.

   ☐ Yes. Go to step 2.

2. Below, fill in the amounts of your **animal housing NASF** and **animal laboratory NASF.** Add the two figures to arrive at your **total animal research NASF.**

   _____ Animal housing NASF

   \+ _____ Animal laboratory NASF

   = _____ **Total** animal research NASF

3. Fill in the amounts of your total animal research NASF that match the following four recommended biosafety levels[1]:

   Level 1 _____ NASF

   Level 2 _____ NASF

   Level 3 _____ NASF

   Level 4 _____ NASF

   Total _____ NASF

   The total of the four levels above should equal your **Total** animal research NASF in 2. above.

4. Fill in the costs and amounts of NASF for animal facility improvements involving

   - repair/renovation over $100,000 scheduled to begin in your FY 1998 or FY 1999

     Cost _____ NASF_____

   - new construction over $100,000 scheduled to begin in your FY 1998 or FY 1999

     Cost _____ NASF_____

Note: *Be sure to also include in your answer to Item 6 on page 19 any projects you list here as repair/renovation and/or new construction projects on animal facilities.*

[1]Reference the report, U.S. Department of Health and Human Services. Public Health Service, Centers for Disease Control and Prevention; and National Institutes of Health. ***Biosafety in Microbiological and Biomedical Laboratories,*** 3rd Edition, 1993. Washington, D.C.: U.S. Government Printing Office, 1993.

Item 9. Additional comments

This is an optional, open-ended question designed with two purposes in mind. It allows you to

- give us information which numerical data cannot capture, and
- help us identify new areas of concern relating to science and engineering (S&E) research facilities. Such discoveries may, in future surveys, warrant further quantitative investigation.

To complete Item 9, write any additional comments you may have in the space below:

FICE Code

Institution Name

MISCELLANEOUS ITEMS *(CONT.)*

Item 10. Feedback

We appreciate the time you have taken to fill out the 1998 survey.

How many person-hours were required to complete this form? _____

Return the survey by ***March 31, 1998***, to: ***The Gallup Organization***
Attention: Bernadine Karunaratne
One Church Street, Suite 900
Rockville, MD 20850

Cross Reference Between NSF Field Categories And The NCES Classification Of Academic Departments

Use this chart to identify the departments that are included within each of the science and engineering (S&E) fields used in this survey.

ENGINEERING

101 Aerospace Engineering
- 14.02 Aerospace, aeronautical, and astronautical engineering

102 Agricultural Engineering
- 14.03 Agricultural engineering

103 Biomedical Engineering
- 14.05 Bioengineering and biomedical engineering

104 Chemical Engineering
- 03.0509 Wood sciences
- 14.07 Chemical engineering

105 Civil Engineering
- 04.02 Architecture
- 14.04 Architectural engineering
- 14.08 Civil engineering
- 14.14 Environmental health engineering

106 Electrical Engineering
- 14.09 Computer engineering
- 14.10 Electrical, electronics, and communications engineering
- 14.1002 Microelectronic engineering

107 Engineering Science
- 14.12 Engineering physics
- 14.13 Engineering science

108 Industrial Engineering/Management Science
- 14.17 Industrial engineering
- 14.27 Systems engineering
- 30.06 Systems science

109 Mechanical Engineering
- 14.11 Engineering mechanics
- 14.19 Mechanical engineering

110 Metallurgical and Materials Engineering
- 14.06 Ceramic engineering
- 14.18 Materials engineering
- 14.20 Metallurgical engineering
- 40.0701 Metallurgy

111 Mining Engineering
- 14.15 Geological engineering
- 14.16 Geophysical engineering
- 14.21 Mining and mineral engineering

112 Nuclear Engineering
- 14.23 Nuclear engineering

113 Petroleum Engineering
- 14.25 Petroleum engineering

114 Engineering, not elsewhere classified
- 14.01 Engineering, general
- 14.22 Naval architecture and marine engineering
- 14.24 Ocean engineering
- 14.28 Textile engineering
- 14.99 Engineering, other
- 19.09 Textiles and clothing (excluding 19.0902, Fashion Design)
- 30.03 Engineering and other fields

PHYSICAL SCIENCES

201 Astronomy
- 40.02 Astronomy
- 40.03 Astrophysics
- 40.09 Planetary science

202 Chemistry
- 40.05 Chemistry

203 Physics
- 40.08 Physics

204 Physical Sciences, not elsewhere classified
- 40.01 Physical sciences, general
- 40.0799 Miscellaneous physical sciences, other
- 40.099 Physical sciences, other

EARTH, ATMOSPHERIC, AND OCEAN SCIENCES

301 Atmospheric Sciences
- 40.4 Atmospheric sciences and meteorology

302 Geosciences
- 40.06 Geological and related sciences
- 40.0703 Earth and planetary sciences

303 Ocean Sciences
- 26.0607 Marine/aquatic biology
- 40.0702 Oceanography

304 Earth, Atmospheric, and Ocean Sciences, N.E.C.

MATHEMATICS

402 Mathematics and Applied Mathematics
- 06.1302 Operations research (quantitative methods)
- 27.01 Mathematics, general
- 27.03 Applied mathematics
- 27.04 Pure mathematics
- 27.99 Mathematics, other
- 30.08 Mathematics and computer science

403 Statistics
- 27.02 Actuarial sciences
- 27.05 Statistics

COMPUTER SCIENCES

401 Computer Sciences
- 06.12 Management information systems
- 11 Computer and information sciences, general
- 30.09 Imaging science

AGRICULTURAL SCIENCES (SEE ALSO 102 AND 901)

501 Agricultural Sciences
- 02.01 Agricultural sciences, general
- 02.02 Animal sciences
- 02.03 Food sciences
- 02.04 Plant sciences
- 02.05 Soil sciences
- 02.99 Agricultural sciences, other
- 03.01 Renewable natural resources, general
- 03.03 Fishing and fisheries
- 03.05 Forestry and related sciences
- 03.06 Wildlife management
- 03.99 Renewable natural resources, other
- 31.04 Water resources

BIOLOGICAL SCIENCES

601 Anatomy
- 18.0201 Clinical anatomy
- 26.0601 Anatomy

602 Biochemistry
- 18.0202 Clinical biochemistry
- 26.02 Biochemistry and biophysics

603 Biology
- 26.01 Biology, general
- 26.0604 Embryology

604 Biometry and epidemiology
- 18.2202 Epidemiology
- 26.0602 Biometrics and biostatistics

605 Biophysics

606 Botany
- 26.03 Botany (excluding 26.0302, Bacteriology; see 611)

607 Cell Biology
- 26.04 Cell and molecular biology
- 26.0606 Histology

608 Ecology
- 26.0603 Ecology

609 Entomology and Parasitology
- 26.0610 Parasitology
- 26.07102 Entomology

610 Genetics
- 26.0703 Genetics, human and animal

611 Microbiology, Immunology, and Virology
- 18.0203 Clinical microbiology
- 18.1002 Allergies and endomology
- 18.1009 Immunology
- 26.0302 Bacteriology
- 26.05 Microbiology

612 Nutrition
- 19.05 Food sciences and human nutrition
- 20.0108 Food and nutrition
- 26.0609 Nutritional sciences

613 Pathology
- 18.0204 Clinical pathology
- 18.1018 Pathology
- 26.0704 Pathology, human and animal

614 Pharmacology
- 18.0206 Clinical toxicology
- 26.0612 Toxicology
- 26.0705 Pharmacology, human and animal
- 42.14 Psychopharmacology

615 Physiology
- 18.0205 Physiology
- 26.0706 Physiology, human and animal

616 Zoology
- 26.0701 Zoology
- 26.0799 Zoology, other

617 Biosciences, not elsewhere classified
- 26.0699 Miscellaneous specialized areas, life sciences, other
- 26.99 Life sciences, other

MEDICAL SCIENCES (see also 103)

701 Anesthesiology
- 18.1003 Anesthesiology

702 Cardiology

703 Cancer Research/Oncology

704 Endocrinology
- 26.0605 Endocrinology

705 Gastroenterology

706 Hematology
- 18.08 Hematology

707 Neurology
- 18.1024 Neurology
- 26.0608 Neurosciences

708 Obstetrics and Gynecology
- 18.1013 Obstetrics and gynecology

709 Ophthalmology
- 18.1014 Ophthalmology
- 18.12 Optometry

710 Otorhinolaryngology
- 18.1017 Otorhinolaryngology/otolaryngology

711 Pediatrics
- 18.1019 Pediatrics
- 20.0102 Child development

712 Preventive Medicine and Community Health
- 18.1007 Family practice
- 18.1022 Preventive medicine

713 Psychiatry
- 18.1023 Psychiatry
- 18.1106 Psychiatry/mental health

714 Pulmonary Disease

715 Radiology
- 18.1012 Nuclear medicine
- 18.1025 Radiology
- 26.0611 Radiobiology

716 Surgery
- 18.1004 Colon and rectal surgery
- 18.1011 Neurological surgery
- 18.1016 Orthopedic
- 18.1021 Plastic surgery
- 18.1026 Surgery
- 18.1027 Thoracic surgery

717 Clinical Medicine, not elsewhere classified
- 18.0299 Basic clinical health sciences, other
- 18.1001 Medicine, general
- 18.1005 Dermatology
- 18.1008 Geriatrics
- 18.1010 Internal medicine
- 18.1020 Physical medicine and rehabilitation
- 18.1028 Urology
- 18.1099 Medicine, other
- 18.13 Osteopathic medicine
- 18.15 Podiatry
- 30.01 Biological and physical sciences

718 Dental Sciences
- 18.04 Dentistry
- 18.1015 Orthodontic surgery

719 Nursing
- 18.11 Nursing (excluding 18.1106, Psychiatry/mental health; see 713)

720 Pharmaceutical Sciences
- 18.14 Pharmacy

721 Veterinary Sciences
- 18.24 Veterinary medicine

722 Health Related, not elsewhere classified
- 17.0807 Occupational therapy
- 17.0813 Physical therapy
- 17.0899 Rehabilitation services, other
- 17.99 Allied health, other
- 18.07 Health sciences administration
- 18.09 Medical laboratory
- 18.22 Public health
- 18.99 Health sciences, other

723 Speech Pathology and Audiology
- 18.01 Audiology and speech pathology

PSYCHOLOGY

801 Psychology
- 13.08 School psychology (not including Educational Psychology)
- 17.0801 Art therapy
- 42 Psychology (including Educational Psychology)

SOCIAL SCIENCES

901 Agricultural Economics
- 01.0102 Agricultural business and management
- 01.0103 Agricultural economics

902 Anthropology (Cultural and Social)
- 45.02 Anthropology
- 45.03 Archeology

903 Economics (except Agricultural)
- 06.05 Business Economics
- 45.06 Economics

904 Geography
- 45.07 Geography

905 History and philosophy of science

906 Linguistics
- 23.06 Linguistics
- 42.12 Psycholinguistics

907 Political Science
- 44.01 Public affairs, general
- 44.03 International public service
- 44.04 Public administration
- 44.05 Public policy studies
- 44.99 Public affairs, other
- 45.09 International affairs
- 45.10 Political science and government

908 Sociology
- 45.05 Demography
- 45.11 Sociology

909 Sociology and Anthropology

910 Social Sciences, not elsewhere classified
- 04.03 City, community, and regional planning
- 05 Area and ethnic studies
- 06.06 Human resources development
- 06.15 Organizational behavior
- 31.03 Parks and recreational management
- 43.01 Criminal justice
- 44.02 Community services
- 44.07 Social work
- 45.01 Social sciences, general
- 45.04 Criminology
- 45.12 Urban studies
- 45.99 Social sciences, other